



# Methane to Markets

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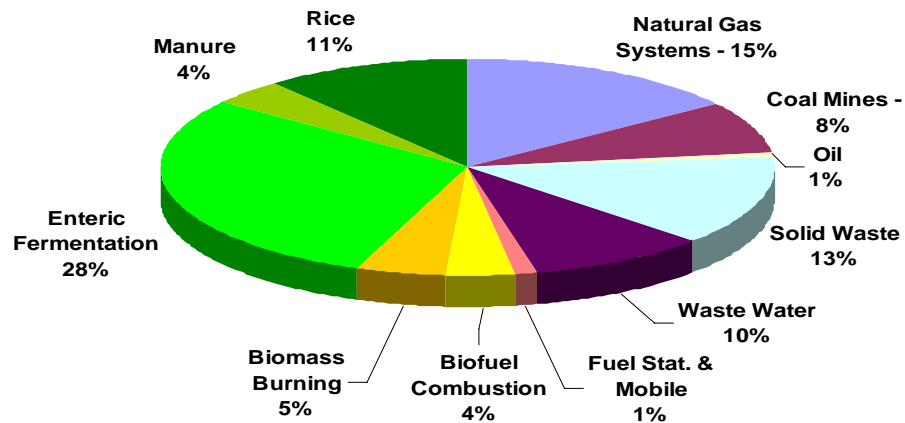
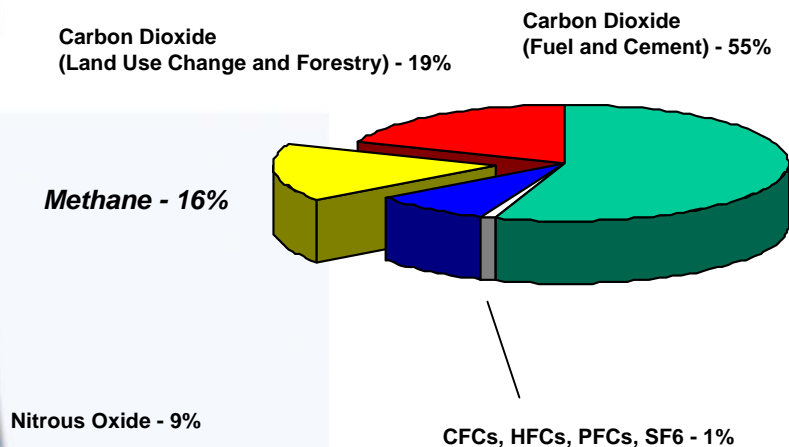
***Public-Private Partnership to Advance the  
Recovery and Use of Methane as a Clean  
Energy Source***

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## Why focus on Methane?

- ✓ A potent GHG (100-year GWP of 23; atmospheric lifetime of ~12 years)
- ✓ The 2nd most important GHG accounting for ~18% of total climate forcing
- ✓ A primary constituent of natural gas and a valuable, clean-burning energy source

### Global Greenhouse Gas (GHG) Emissions in 2000 = 40,702 MtCO<sub>2</sub>e



# Cost-Effective Projects Recover and Use Methane

Coal Mines



Oil and Gas Systems



Landfills



Livestock Waste

# Significant Co-benefits of Methane Recovery and Use Projects

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- Important local energy source and reduced waste of a valuable fuel
- Improved industrial safety and productivity
- Improved air quality, water quality and reduced odors
- Reduced greenhouse gas emissions
- Progress toward sustainable development goals
- Economic growth and energy security

# Barriers to Methane Recovery

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- Lack of awareness of emission levels and value of lost fuel
- Lack of information on and training in new technologies and practices
- Traditional industry practices
- Regulatory and legal issues
- Limited methane markets and infrastructure
- Uncertain investment climate

# Methane to Markets Partnership Overview

- Advances recovery and use of methane as a valuable clean energy source
- Encourages development of **cost-effective** methane recovery and use opportunities in
  - coal mines
  - landfills
  - oil and gas systems and
  - agriculture (manure waste management)
- Private companies, multilateral development banks and other relevant organizations participate by joining the **Project Network** – *over 180 organizations now participating*
- 17 Partner Countries


Argentina	Japan
Australia	Korea
Brazil	Mexico
Canada	Nigeria
Colombia	Russia
China	Ukraine
Ecuador	United Kingdom
India	United States
Italy	

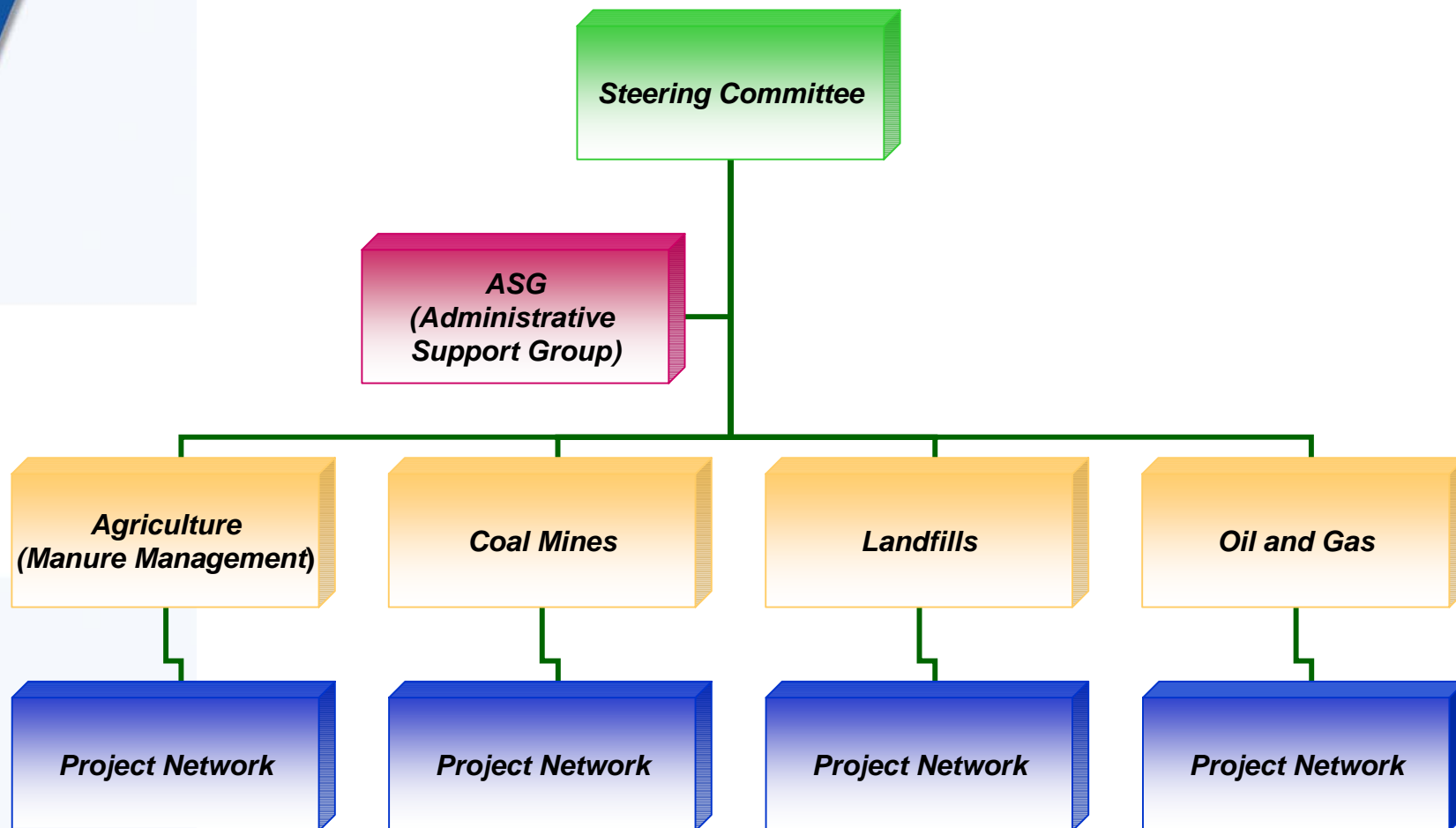


# Methane to Markets Activities

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- Action oriented – focus on project development
- Participating countries and Project Network members work collaboratively to:
  - Identify cost-effective opportunities for capturing methane emissions for energy production
  - Identify and remove legal, regulatory, financial, and other barriers to project development
  - Develop sector-specific action plans and a process for evaluating their implementation
  - Conduct training, technical exchange, and demonstrations to support project development
- Developed countries commit to assist developing countries and countries in transition in undertaking the activities listed above

# Partnership Organization



# Importance of the Project Network

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- Project network members are private firms, development banks, NGOs or other governmental and non-governmental entities with an interest in methane recovery and use projects
- Currently over 250 organizations including:
  - World Bank
  - UN Economic Commission for Europe
  - Consultants and Project Developers
- Private sector and broad stakeholder involvement is central to the success of the Partnership
  - Provide technical input and expertise
  - Participate in all activities and meetings
  - Identify and implement activities and projects
- Organizations can join on-line at [www.methanetomarkets.org](http://www.methanetomarkets.org)
- Project Network Members can submit project ideas on-line at <http://www.methanetomarkets.org/projects/submit-ideas.htm>

# U.S. Involvement in M2M

- U.S. EPA is coordinating efforts across the USG and staffs the Partnerships Administrative Support Group



USAID  
FROM THE AMERICAN PEOPLE



- U.S. commitment
  - Pledge of \$53 million over five years
- Key activities to advance project development
  - Identify and assess project opportunities
    - Pre-feasibility and Feasibility studies
  - Support technology transfer and training
    - Workshops and Conferences
    - Study tours
    - Developing Reports / Databases / Clearinghouses
  - Address barriers to project development and increase access to information
    - Financial/market, regulatory, technical
  - Technology demonstration and deployment

## M2M Accomplishments in 2005

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- Partnership infrastructure established
  - Organization, website, outreach materials, etc...
- Subcommittees developed and began to implement action plans
  - Description of available technologies and best practices
  - Identification of key barriers and issues for project development
  - Identification of project finance opportunities and mechanisms
  - Discussion of country-specific needs, opportunities, and priorities
- Partners collaborated on key projects and activities

# Landfills: Project Highlights

- US is working in Mexico with the Border Environmental Cooperation Commission and the North American Development Bank, SEMARNAT, SEDESOL to undertake landfill gas capture and use projects (EPA/USAID)
  - Reviewing barriers for landfill gas use and creating a guide on financing methane capture and its beneficial use.
  - Performing landfill methane pre-feasibility studies at the Tijuana and Nuevo Laredo landfill sites.
- Implementation of a landfill gas fired power plant in Fortaleza, Brazil (USAID)
  - Project includes technical support, feasibility study, and social inclusion activity
- Conferences/Workshops (EPA)
  - Sponsored LFG Training Workshop, Moscow, May 2005
  - Co-sponsored the World Bank Latin America LFG Project Expo, July 2005



## Oil and Gas: Project Highlights

- Sponsored two Emissions Reduction Workshops in 2005 where EPA provided training for oil and gas field personnel on cost-effective methane emission reduction technologies and management practices.
  - Bogota, Colombia, October 2005
  - Tomsk, Russia, Sept 2005
- Support two pilot projects at PEMEX (Mexican state oil company) facilities to reduce or eliminate fugitive methane emissions and venting losses from oil and gas systems (EPA)
- Expand EPA's Natural Gas STAR Program Internationally



## Coal Mining: Project Highlights

- Project in the Ukraine to demonstrate the technical effectiveness of enhanced horizontal drilling techniques. Potential reduction of 100,000 tonnes/year of CO<sub>2</sub> (USAID)
- Grant to the Shanxi Jincheng Anthracite Coal Mining Group in China for a technical assistance program to develop a power plant that will use coalbed methane (CBM) and coal mine methane (CMM) from the Sihe mine site. (TDA)
- EPA collaboration with Japan's New Energy and Industrial Technology Development Organization (NEDO) and the Australian Greenhouse Office on Coal Mine Methane Tech Transfer and Project Development Workshops. (EPA)
- Establishing CMM Clearinghouse in India (EPA/TDA)



# Agriculture Subcommittee

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- Agriculture Subcommittee created and Charge defined at November meeting in Buenos Aires
  - Focus on animal waste management
  - United Kingdom & Argentina designated as co-chairs
  - Other involved countries include: Australia, Brazil, Canada, Ecuador, India, Italy, Japan, Mexico, Nigeria, and the U.S.
- Key activities in 2006
  - Develop Action Plan
  - Produce progress reports
  - Report on milestones
  - Conduct outreach to Project Network members
  - Work with ASG to identify and develop key outreach materials (i.e., fact sheet)
  - Appoint 1-2 members to the Project Expo Taskforce

## Priorities for 2006

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- Implementing concrete activities in each sector and in each Partner country
- Identifying near-term opportunities to develop projects for investment and implementation.
- Development of the Project and Technology Expo for 2007
  - Partners to support development of project pipelines
- Expanding the Project Network to include key organizations from the private sector and the investment community.

# Upcoming M2M Meetings/Events

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- **28 April 2006 – Oil and Gas Subcommittee Meeting, Villahermosa, Mexico**
  - Co-located with technical workshop
- **23 May 2006 – Coal Subcommittee Meeting, Tuscaloosa, Alabama, U.S.**
  - Co-located with International Coal Mine Methane Symposium
- **12 May 2006 - Landfill Subcommittee Meeting – Cologne, Germany**
  - Co-located with CarbonExpo
- **Agriculture Subcommittee Meeting – TBD**
- **Steering Committee Meeting – 4<sup>th</sup> Quarter 2006**
  - Meeting of the Steering Committee only. Subcommittee co-chairs should also plan to attend to provide updates on their progress.
- **Fall 2007 (tentative) – China - Project and Technology Expo**
  - Co-located with Steering Committee and all subcommittee meetings

# Current M2M Funding Opportunities

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- U.S. Agency for International Development (USAID) request for proposals under the Global Development Alliance (GDA)
  - Ongoing
  - Cost sharing required
  - Private companies are eligible
  
- US EPA – Methane to Markets Grant Opportunity
  - Spring/Summer 2006
  - Advance methane recovery and use projects in Partner countries
  - Cost sharing preferred
  - Up to \$2.5 million (25K - 300K/award)
  
- [methanetomarkets.org/resources/general/index.htm](http://methanetomarkets.org/resources/general/index.htm)

## For More Information

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- Website
  - [www.methanetomarkets.org](http://www.methanetomarkets.org)
- Administrative Support Group
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